

**INITIAL ASSESSMENTS AND
STABILIZATION EVALUATIONS
OF RCRA FACILITIES**

OTHER _____

AMERICAN CYANIMID COMPANY

Submitted to:

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American Cyanimid Company
EPA I.D. No. CTD001864024

Facility Summary

The American Cyanimid Corporation (American Cyanimid) facility located in Stamford, Connecticut is a research and development center for various organic, polymeric and inorganic chemical products such as pesticides, catalysts, plastic additives and medicines. The facility consists of laboratories and pilot plants which are used for development and interim manufacturing processes. Operations at the facility began in 1937. The facility is located on 35 acres of land in a mixed residential and industrial area. The site is bordered to the east, north and west by residential areas and to the south by an industrial/commercial area. There are no drinking water wells located within one-quarter mile of the facility. The area within one mile of the site is serviced by municipal water. Mianus Pond, located approximately 1.5 miles west of the site, is utilized by the Connecticut American Water Company as an emergency water supply source (References 1 and 2).

The facility generates a variety of hazardous waste which have ignitable, corrosive, reactive, toxic characteristic and numerous other hazardous waste code identifications. Hazardous wastes are managed at four RCRA Interim Status container storage areas. These include: Storage Drum Field 1 (AOC 1); Storage Drum Field 2, (AOC 2); Storage Drum Field 3 (AOC 3); and the Building 30A Waste Storage Area (AOC 7). Hazardous wastes generated in the facility's numerous laboratories are collected at Lab Waste Accumulation Areas (AOC 12). Wastes from AOC 12 are transferred to the Building 30A Waste Storage Area for sorting, storage and shipment off-site. Hazardous wastes generated at the pilot plant buildings are accumulated in drums at Satellite Accumulation Areas (AOC 13). Drums of waste from AOC 13 are transferred to AOCs 1, 2, 3 and 7 for storage prior to shipment off-site. The facility submitted a RCRA Part B Permit Application to U.S. EPA Region 1 for AOCs 1, 2, 3 and 7 in November 1988. In addition, the RCRA Part B Permit Application proposed the construction of a Steam Distillation System (AOC 5) for the treatment of ignitable aqueous waste ethyl acetate liquor. Available references did not indicate the status of the RCRA Part B Permit Application or AOC 5 (References 1 and 2).

During construction excavation activities in 1984, several drums, a pail, and glass jars were unearthed. The pail was reportedly observed to be leaking a black viscous liquid. Samples of the materials in the various containers were collected for characterization by both the facility and the Connecticut Department of Environmental Protection (CTDEP). Results of the sampling at the Historic Dump Area (AOC 4) indicated that the materials contained numerous volatile organic compounds "at elevated levels", including the following: methylene chloride; chloroform; 1,2-dichloroethane; 1,1,1-trichloroethane; carbon tetrachloride; trichloroethylene; benzene; 1,1,2-trichloroethane; tetrachloroethylene; toluene; and ethylbenzene. The containers unearthed during the excavation were disposed off-site. Available references indicate that AOC 4 had been used historically for disposal and burning of hazardous wastes. Available references did not indicate whether further excavation and soil sampling at AOC 4 has been conducted. No groundwater monitoring had been conducted at the site as of November 1988 (References 1 and 2).

According to EPA representatives, the site is presently listed as medium priority on the National Corrective Action Prioritization System (NCAPS), requiring completion of only the first four questions of the Stabilization Evaluation Checklist. However, per the request of the EPA Work Assignment Manager, the entire Stabilization Evaluation Checklist has been completed for the site.

Thirteen Areas of Concern (AOCs) were identified at the American Cyanamid facility. These include the following:

1. Storage Drum Field 1
2. Storage Drum Field 2
3. Storage Drum Field 3
4. Historic Dump Area
5. Steam Distillation System (planned as of 1988).
6. Drum Decontamination Unit
7. Building 30A Waste Storage Area
8. Process Sewer System
9. Storm Sewer System
10. Effluent Treatment Tanks
11. Sanitary Sewer System
12. Lab Waste Accumulation Areas
13. Satellite Accumulation Areas

CORRECTIVE ACTION STABILIZATION QUESTIONNAIRE

Completed by: Mohamed Nur, A.T. Kearney, Inc.

Date: November 28, 1994

Background Facility Information

Facility Name: American Cyanamid Company
Location (City, State): Stamford, Connecticut

EPA Identification No.: CTD001864024
Facility Priority Rank: Medium

1. Is this checklist being completed for one solid waste management unit (SWMU), several SWMUs, or the entire facility? Explain.

For the entire facility. Thirteen Areas of Concern (AOCs) were identified at the site. Available references indicate that the Historic Dump Area (AOC 4) was used for disposal and burning of hazardous wastes. Several drums, a pail and glass bottles of waste were excavated from the unit in late 1984. The pail was reportedly observed to be leaking a black viscous liquid. Available references did not indicate whether further excavation and soil sampling at AOC 4 has been conducted. No groundwater monitoring had been conducted at the site as of November 1988.

Status of Corrective Action Activities at the Facility

2. What is the current status of HSWA corrective action activities at the facility?
- ☒ No corrective action activities initiated
 - ☐ RCRA Facility Assessment (RFA) or equivalent completed
 - ☐ RCRA Facility Investigation (RFI) completed
 - ☐ Corrective Measures Study (CMS) completed
 - ☐ Corrective Measures Implementation (CMI) begun or completed
 - ☐ Interim Measures begun or completed
3. If corrective action activities have been initiated, are they being carried out under a permit or an enforcement order?
- ☒ Not Applicable
 - ☐ Operating permit
 - ☐ Post-closure permit
 - ☐ Enforcement order

4. Have interim measures, if required or completed [see Question 2], been successful in preventing the further spread of contamination at the facility?

☐ Yes
☐ No
☒ Uncertain; still underway

* Several containers of hazardous waste were removed from AOC 4 in late 1984. Available references did not indicate whether additional containers of waste remained at the unit. Available references did not indicate whether further excavation and soil sampling at AOC 4 has been conducted.

CONTINUE TO QUESTION 5 ONLY IF THE FOLLOWING CONDITIONS ARE MET:

- The facility ranks "High" on the National Corrective Action Prioritization System; AND
- Interim Measures have not been initiated, or if initiated, have not been successful in preventing the further spread of contamination at the facility.

Facility Releases and Exposure Concerns

5. To what media have contaminant releases from the facility occurred or been suspected of occurring?

☒ Ground water
☐ Surface water
☐ Air
☒ Soils

* Releases of hazardous waste to soil at AOC 4 were observed in 1984. No groundwater monitoring had been conducted at the site as of November 1988.

6. Are contaminant releases migrating off-site?

- ☐ Yes; indicate media, concentrations, and level of certainty.

- ☐ No
☒ Uncertain

Available references indicate that a release has occurred at AOC 4. However, available references did not indicate the nature and extent of the contamination associated with AOC 4. In addition, as of November 1988, no groundwater monitoring had been conducted at the site.

7a. Are humans currently being exposed to contaminants released from the facility?

- ☐ Yes
☐ No
☒ Uncertain

Insufficient information concerning the nature and extent of contamination at the site exists to determine whether exposures to contaminants released from the facility are occurring. There are no drinking water wells located within one-quarter mile of the facility. The area within one mile of the site is serviced by municipal water. Mianus Pond, located approximately 1.5 miles west of the site, is utilized by the Connecticut American Water Company as an emergency water supply source

7b. Is there a potential for human exposure to the contaminants released from the facility over the next five to 10 years?

- ☒ Yes
☐ No
☐ Uncertain

See response to Question No. 7a.

8a. Are environmental receptors currently being exposed to contaminants released from the facility?

- ☐ Yes
☐ No
☒ Uncertain

See response to Question No. 7a.

8b. Is there a potential that environmental receptors could be exposed to the contaminants released from the facility over the next five to 10 years?

- ☐ Yes
☐ No
☒ Uncertain

See response to Question No. 7a.

Anticipated Final Corrective Measures

9. If already identified or planned, would final corrective measures be able to be implemented in time to adequately address any existing or short-term threat to human health and the environment?

- ☒ Not Applicable
☐ Yes
☐ No
☒ Uncertain

No corrective measures have been identified or planned for the site.

10. Could a stabilization initiative at this facility reduce the present or near-term (e.g., less than two years) risks to human health and the environment?

- ☐ Yes
☐ No
☒ Uncertain

Insufficient information concerning the nature and extent of contamination at the site exists to determine whether there are any risks to human health and the environment. However, further investigation and, if warranted, removal of wastes and contaminated soil at AOC 4 could reduce any potential present or near-term risks.

11. If a stabilization activity were not begun, would the threat to human health and the environment significantly increase before final corrective measures could be implemented?

- ☐ Yes
☐ No
☒ Uncertain

See response to Question No. 10.

Technical Ability to Implement Stabilization Activities

12. In what phase does the contaminant exist under ambient site conditions?

- ☐ Solid
- ☐ Light non-aqueous phase liquids (LNAPLs)
- ☐ Dense non-aqueous phase liquids (DNAPLs)
- ☐ Dissolved in ground water or surface water
- ☐ Gaseous
- ☒ Other sorbed to soil particles

13. Are one or more of the following major chemical groupings of concern at the facility?

- ☒ Volatile organic compounds (VOCs) and/or semi-volatiles
- ☐ Polynuclear aromatics (PAHs)
- ☐ Pesticides
- ☐ Polychlorinated biphenyls (PCBs) and/or dioxins
- ☐ Other organics
- ☐ Inorganics and metals
- ☐ Explosives
- ☐ Other _____

14. Are appropriate stabilization technologies available to prevent the further spread of contamination, based on contaminant characteristics and the facility's environmental setting?

- ☒ Yes; indicate possible course of action.

Further investigation of AOC 4 and, if warranted, removal of wastes and contaminated soil at the unit. Implementation of engineering controls such as fencing the unit area and altering drainage patterns in the unit area to minimize run-on and run-off.

- ☐ No; indicate why stabilization technologies are not appropriate.

15. Has the RFI, or another environmental investigation, provided the site characterization and waste release data needed to design and implement a stabilization activity?

- ☐ Yes
- ☒ No

If No, can these data be obtained faster than the data needed to implement the final corrective measures?

- ☒ Yes
- ☐ No

Surveying of AOC 4 to determine its extent and the location of wastes at the unit (through ground penetrating radar and magnetic anomaly detection), soil sampling, and possibly limited groundwater monitoring could yield sufficient data to implement a stabilization measure at AOC 4.

Timing and Other Procedural Issues Associated with Stabilization

16. Can stabilization activities be implemented more quickly than the final corrective measures?

- ☒ Yes
- ☐ No
- ☐ Uncertain

Additional explanatory notes:

Implementation of engineering controls, and an initial investigation (See Question No. 15), followed by removal of wastes and contaminated soil could be conducted more quickly than final corrective measures which may require groundwater treatment and monitoring.

17. Can stabilization activities be incorporated into the final corrective measures at some point in the future?

- ☒ Yes
- ☐ No
- ☐ Uncertain

Conclusion

18. What stabilization activities, if any, could be applied to the facility?

Further investigation of AOC 4 to determine the nature and extent of releases at the unit is needed. If warranted, removal of wastes and contaminated soil at the unit should be conducted. Implementation of engineering controls such as fencing the unit area and altering drainage patterns in the unit area to minimize run-on and run-off may also be conducted.

American Cyanimid Company
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REFERENCES

The Stabilization Evaluation Checklist was completed based on the following reference material obtained during the limited file search conducted for sites that require preparation of a Stabilization Evaluation Checklist, only.

1. Preliminary Assessment of the American Cyanimid Company. Prepared for CTDEP, by NUS Corporation. August 28, 1986.
2. RCRA Part B Permit Application. Prepared for American Cyanimid Company, by Remcor, Inc. November 1988.